

Section II

**RIGGING ARAAV FOR AIRDROP
FROM A C-141 AIRCRAFT**

5-18. Description of Load

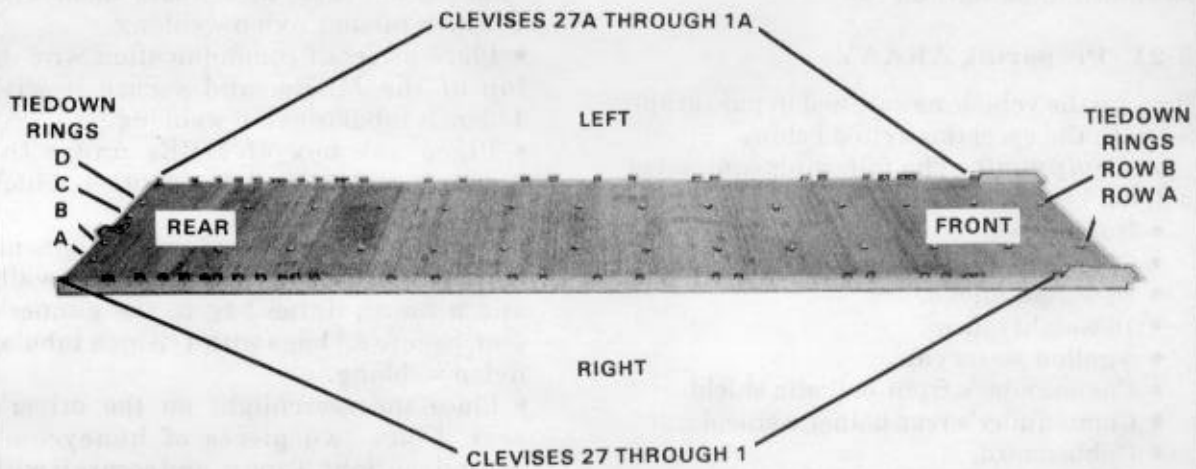
The M551A1 rigged with equipment, ammunition, and POL weighs 38,490 pounds. This vehicle is rigged with a load similar to that in Section I; however, some items have been deleted or substituted so that the load does not exceed 38,500 pounds for the C-141 aircraft. See paragraph 5-21 for the exceptions.

5-19. Preparing Platform

Prepare a 28-foot, type V airdrop platform using two tandem links and 54 tiedown clevises as shown in Figure 5-35.

NOTES:

- 1. During contingency (wartime) operation, with Air Force approval, the maximum rigged weight of the M551A1 may be increased to 42,000 pounds.**
- 2. The nose bumper must not be installed because of rigged weight limitations.**

**Step:**

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link on each platform side rail using bushings 1, 2, and 3.
3. Install clevises on each platform side rail using bushings 4, 8, 9, 10, 11, 14, 15, 21, 22, 26, 28, 31, 33, 37, 39, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, and 56.

Note: Clevises in bushings 49, 52, and 54 will be turned upside down for the parachute restraint straps.

4. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 27 and those bolted to the left side from 1A through 27A.
5. Starting at the front of the platform, number the tiedown rings 1 through 14. Label the rows A and B from right to left. Label the tiedown rings on the last panel A, B, C, and D from right to left.

Figure 5-35. Platform prepared

5-20. Building and Placing Honeycomb Stacks

Prepare and position the honeycomb stacks as shown in paragraph 5-3.

5-21. Preparing ARAAV

Prepare the vehicle as outlined in paragraph 5-4 with the exceptions cited below.

a. Equipment. The following equipment will not be dropped with the vehicle:

- Bussel rack.
- Clam shells.
- 30-weight oilcan.
- 10-weight oilcan.
- 5-gallon water can.
- Commander's front ballistic shield.
- Commander's rear ballistic shield.
- Cable guard.
- LRF cable connection guard.
- Laser range finder.
- Track shoes.

b. Ammunition. The following ammunition will be dropped with this load:

NOTE: Substitution of ammunition must not exceed 1,000 pounds.

- Two missiles.
- Five heat ammunition.
- Two APERS rounds.
- 800 rounds of 50-caliber ammunition.
- 2,400 rounds of 7.62-millimeter ammunition.
- One 50-caliber A-frame.
- One coaxial gun in its mount.

c. Turret Rack Changes. Do not attach the turret rack to the rear of the vehicle. Instead, initiate the following changes:

- Place two boxes of MREs on top of the ammunition rack, and secure them with 1/2-inch tubular nylon webbing.
- Place a reel of communication wire on top of the MREs, and secure it with 1/2-inch tubular nylon webbing.
- Place one box of MREs under the gunner's seat, and secure it with 1/2-inch tubular nylon webbing.
- Place three duffel bags (crew equipment) between the rations and the turret walls and a fourth duffel bag in the gunner's seat. Secure all bags with 1/2-inch tubular nylon webbing.
- Place the searchlight on the driver's seat. Place two pieces of honeycomb around the light. Tape it, and secure it with 1/2-inch tubular nylon webbing.

5-22. Installing Load Cover and Track Support Tiedown Straps

Install the load cover and track support tiedown straps as shown in paragraph 5-5.

5-23. Positioning ARAAV on Platform

Position the ARAAV on the platform as shown in paragraph 5-7.

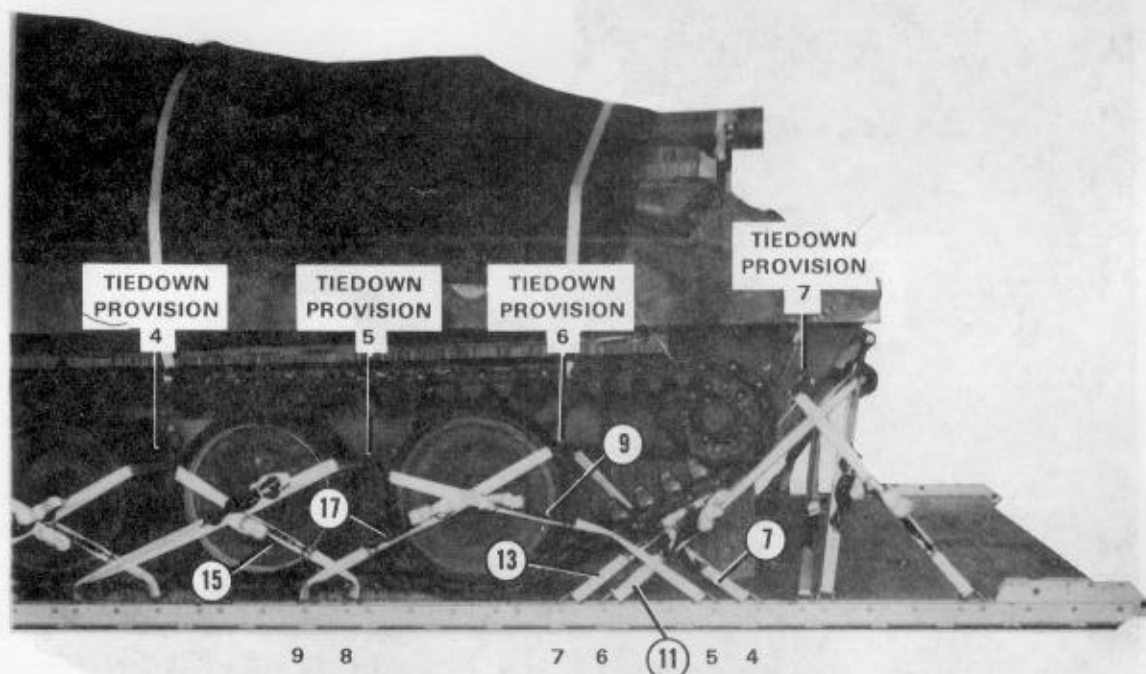
5-24. Lashing ARAAV

Lash the ARAAV to the platform with forty-two 15-foot Dacron tiedown assemblies. Install the lashings as shown in Figures 5-36 through 5-39.



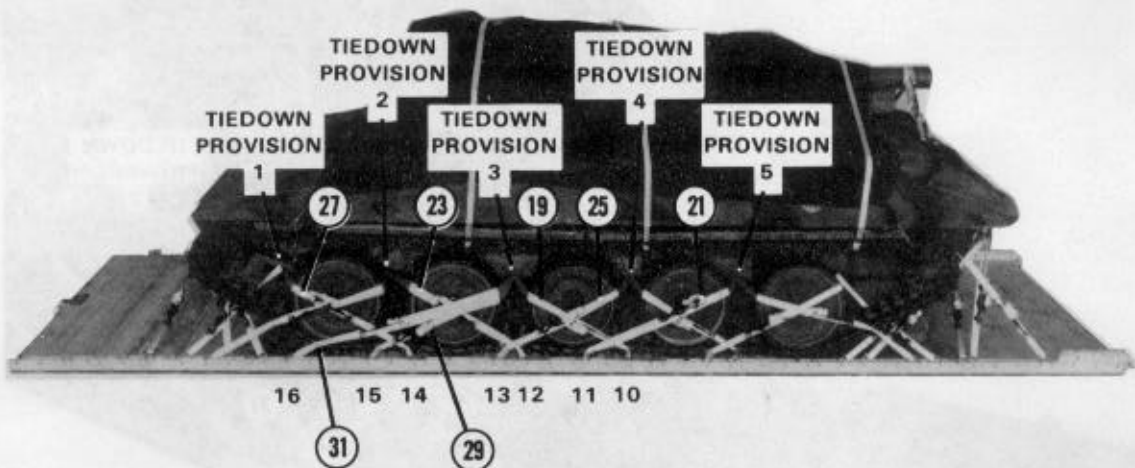
Lashing Number	Tiedown Clevis Number	Instructions
①	1	Pass lashing:
②	1A	To tiedown provision 7.
③	2	To left rear towing clevis.
④	2A	To right rear towing clevis.
⑤	3	To right rear towing clevis.
⑥	3A	To left rear towing clevis.

Figure 5-36. Lashings 1 through 6 installed



Lashing Number	Tiedown Clevis Number	Instructions
7	4	Pass lashing: To tiedown provision 6.
8	4A	To tiedown provision 6.
9	5	To tiedown provision 5.
10	5A	To tiedown provision 5.
11	6	To left towing clevis.
12	6A	To right towing clevis.
13	7	To tiedown provision 7.
14	7A	To tiedown provision 7.
15	8	To tiedown provision 4.
16	8A	To tiedown provision 4.
17	9	To tiedown provision 6.
18	9A	To tiedown provision 6.

Figure 5-37. Lashings 7 through 18 installed



Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
19	10	To tiedown provision 3.
20	10A	To tiedown provision 3.
21	11	To tiedown provision 5.
22	11A	To tiedown provision 5.
23	12	To tiedown provision 2.
24	12A	To tiedown provision 2.
25	13	To tiedown provision 4.
26	13A	To tiedown provision 4.
27	14	To tiedown provision 1.
28	14A	To tiedown provision 1.
29	15	To tiedown provision 3.
30	15A	To tiedown provision 3.
31	16	To tiedown provision 3.
32	16A	To tiedown provision 3.

Figure 5-38. Lashings 19 through 32 installed

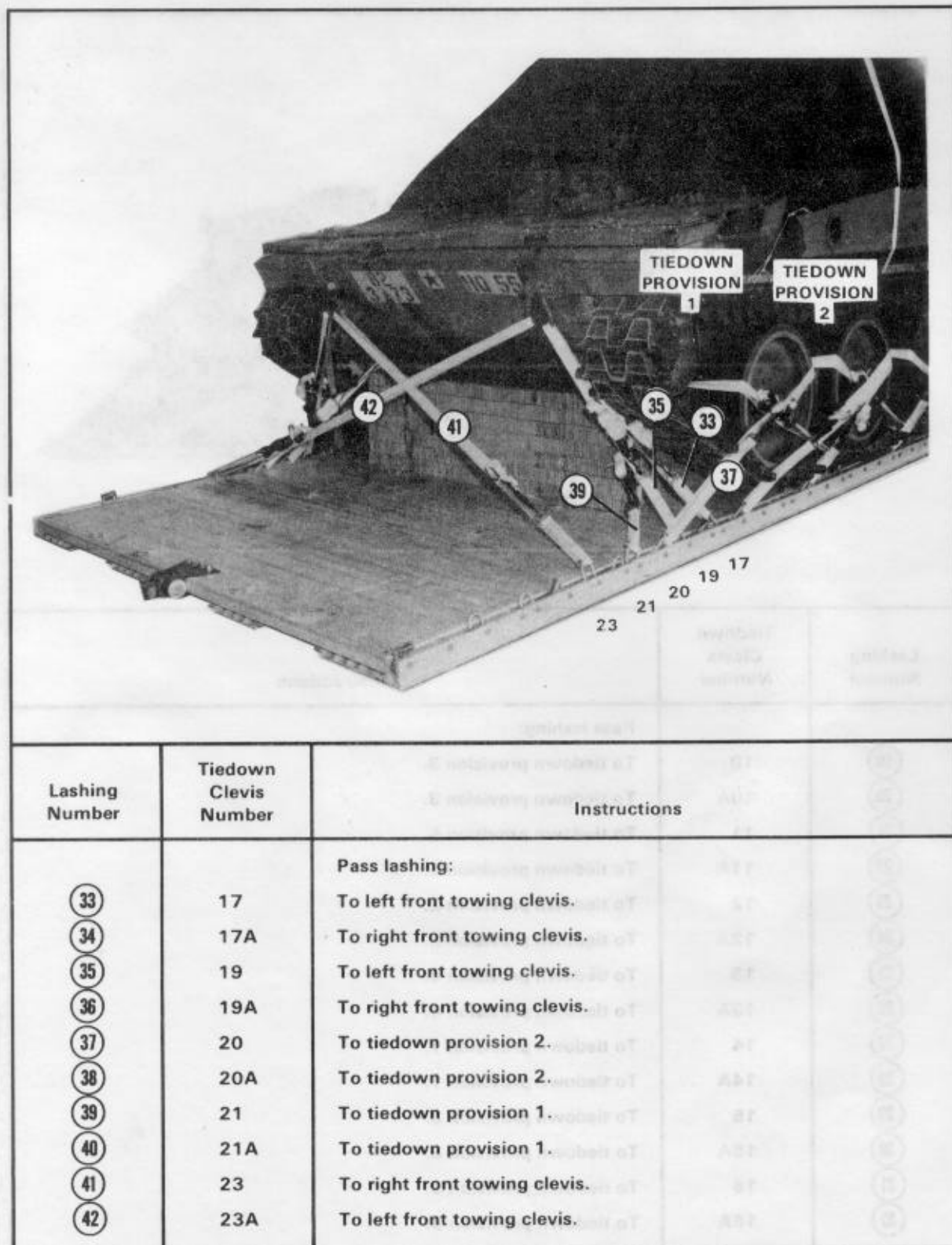


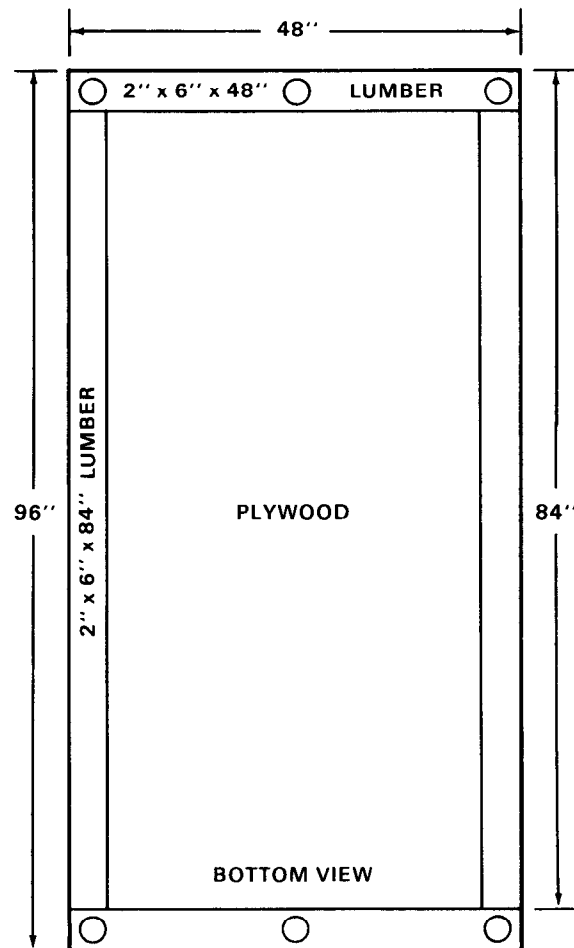
Figure 5-39. Lashings 33 through 42 installed

5-25. Building and Installing Cargo Parachute Stowage Platform

Build and install the cargo parachute stowage platform as described below.

a. Building Cargo Parachute Stowage Platform. Build the platform as shown in Figure 5-40.

Note: This drawing is not drawn to scale.

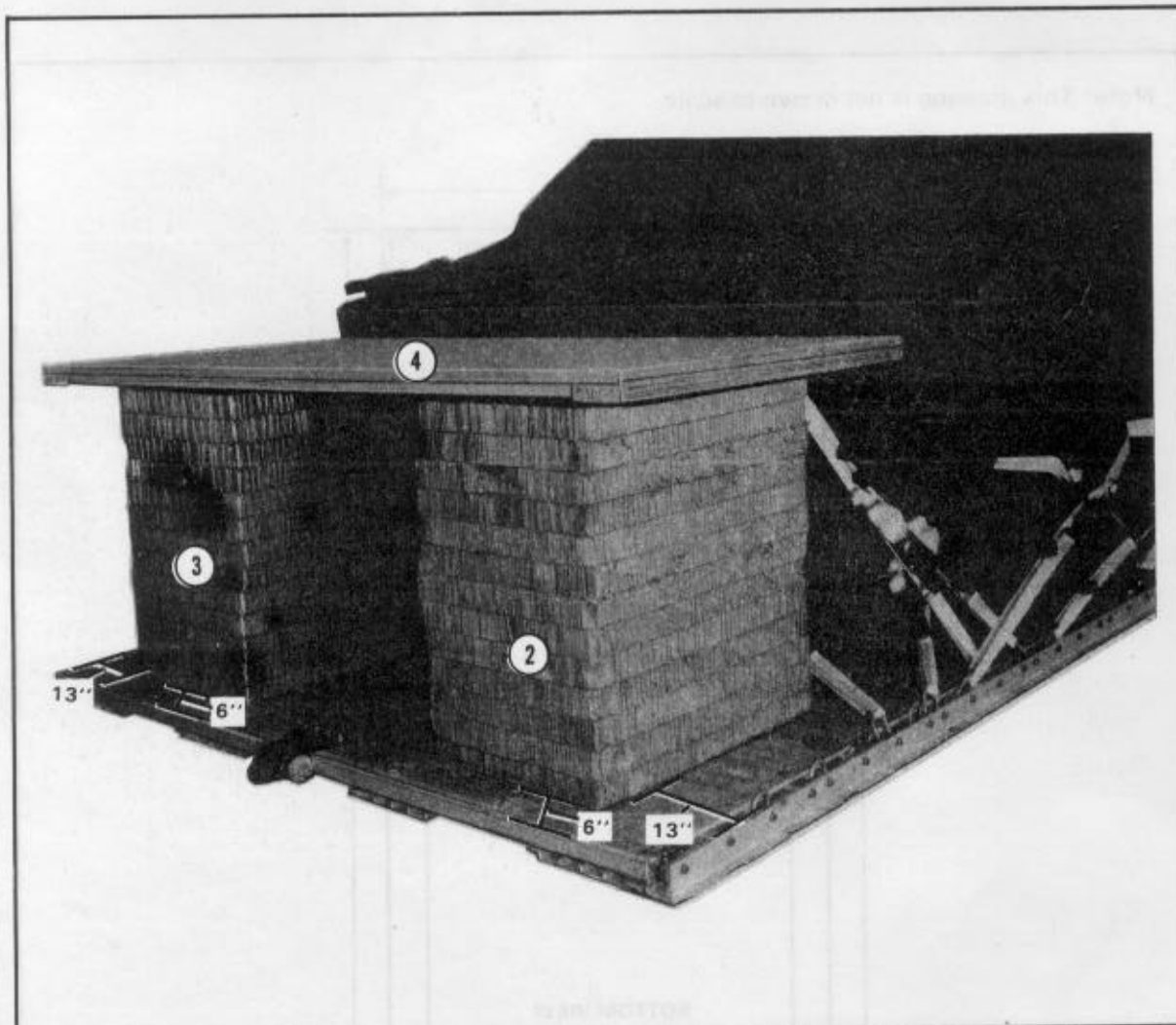


Step:

1. Nail two 2- by 6- by 48-inch and two 2- by 6- by 84-inch pieces of lumber to the bottom edges of a 3/4- by 48- by 96-inch piece of plywood using sixpenny nails.
2. Drill six 2-inch holes centered through the lumber and plywood as shown.

Figure 5-40. Cargo parachute stowage platform constructed

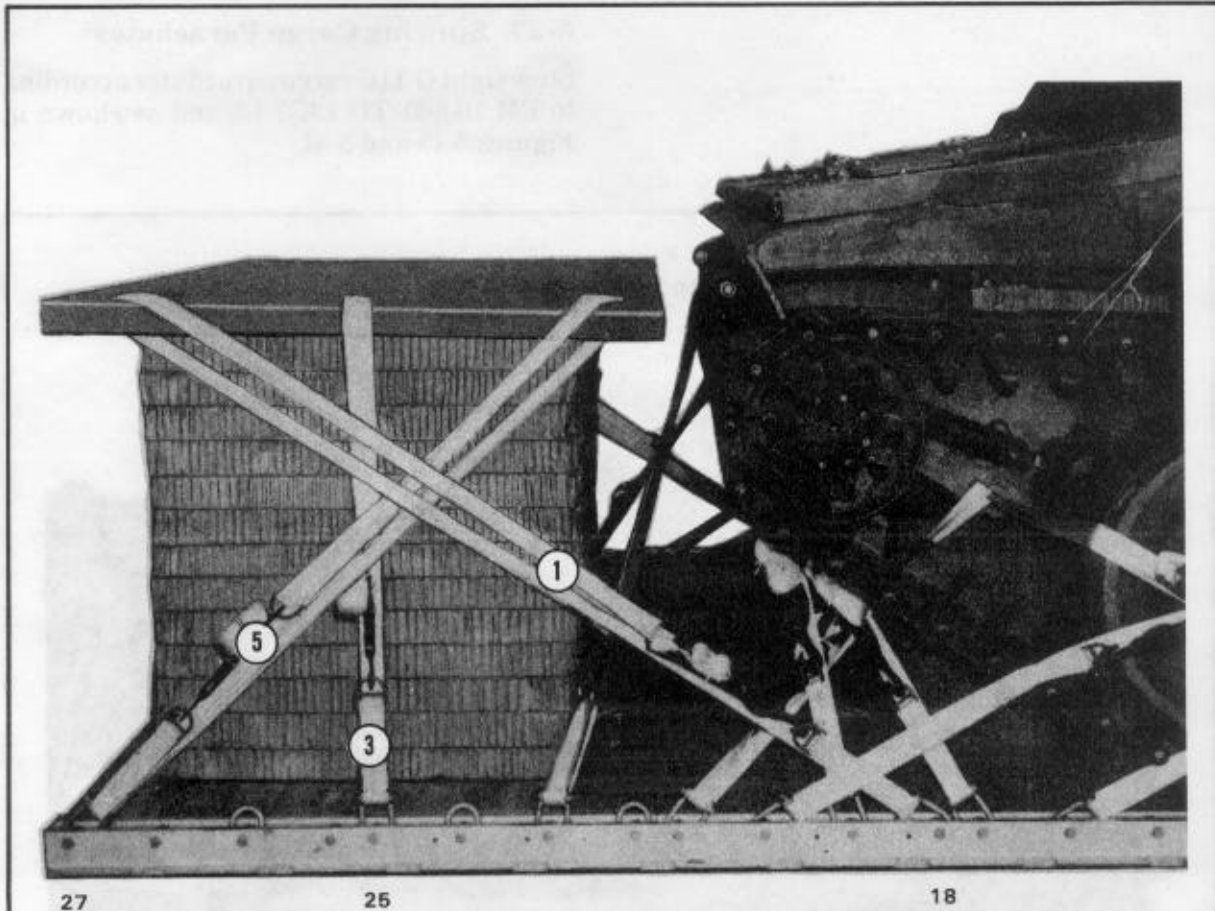
b. Building Honeycomb Stacks and Positioning Cargo Parachute Stowage Platform. Build the honeycomb stacks and install the cargo parachute stowage platform as shown in Figure 5-41.



- ① Construct two 13-layer honeycomb stacks using 24-by 36-inch pieces of honeycomb (not shown).
- ② Position the first stack 13 inches from the right outside rail and 6 inches from the rear of the platform.
- ③ Position the second stack 13 inches from the left outside rail and 6 inches from the rear of the platform.
- ④ Center the cargo parachute stowage platform on top of the honeycomb stacks.

Figure 5-41. Honeycomb stacks and cargo parachute stowage platform positioned

c. Lashing Cargo Parachute Stowage Platform. Lash the platform as shown in Figure 5-42.



Lashing Number	Tiedown Clevis Number	Instructions
①	18	Pass lashing: Through rear hole of platform.
②	18A	Through rear hole of platform.
③	25	Through center hole of platform.
④	25A	Through center hole of platform.
⑤	27	Through front hole of platform.
⑥	27A	Through front hole of platform.

Figure 5-42. Cargo parachute stowage platform lashed

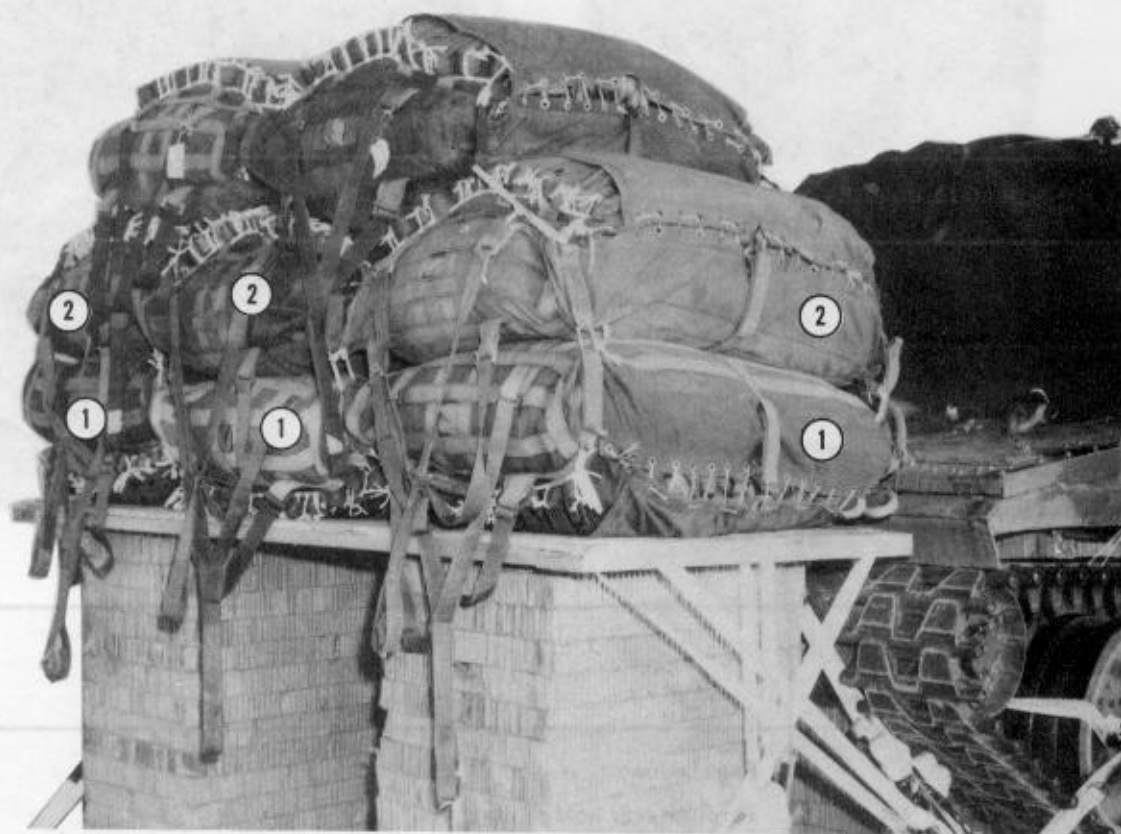
5-26. Installing Suspension Slings and Deadman's Tie

Install the suspension slings and the deadman's tie as shown in paragraph 5-6.

5-27. Stowing Cargo Parachutes

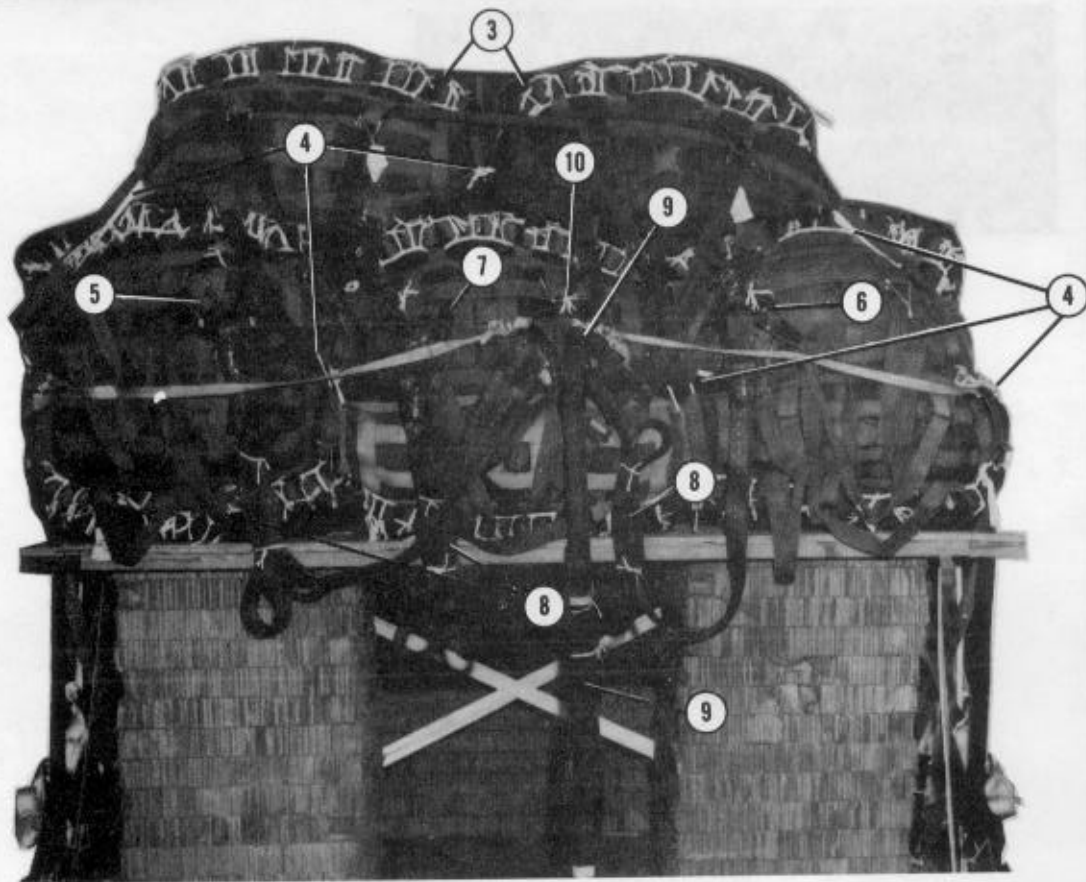
Stow eight G-11C cargo parachutes according to FM 10-500/TO 13C7-1-5 and as shown in Figures 5-43 and 5-44.

Note: Use either a 120-foot (3-loop), type X or a 120-foot (2-loop), type XXVI nylon webbing riser extension.



- ① Set three parachutes side by side on the parachute stowage tray with the riser compartments on the bottom.
- ② Set three additional parachutes side by side on top of the first layer of parachutes with riser compartments on top.

Figure 5-43. Parachutes stowed

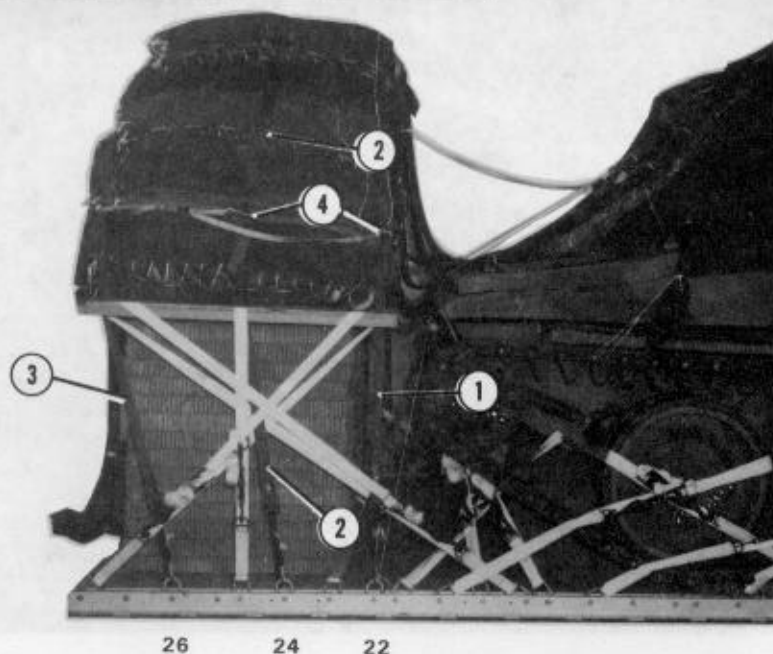


- ③ Center the two remaining parachutes side by side on top of the second layer with the riser compartments on top.
- ④ Cluster the parachutes together with 1/2-inch tubular nylon webbing.
- ⑤ Group the deployment bag bridle loops of the three cargo parachutes on the left on one large clevis assembly.
- ⑥ Group the deployment bag bridle loops of the three cargo parachutes on the right on a second large clevis assembly.
- ⑦ Group the deployment bag bridle loops of the two center parachutes on a third large clevis assembly.
- ⑧ Attach a 9-foot (2-loop), type XXVI nylon sling deployment line to each of the three large clevis assemblies.
- ⑨ Place the free ends of the deployment lines on the arms of a large clevis assembly, and bolt a 9-foot (4-loop), type XXVI nylon webbing sling to the same clevis.
- ⑩ Tie the clevises (steps 6 through 9) to the cargo parachutes with double lengths of 80-pound cotton webbing. Fold the excess in slings, and tape the folds in place.

Figure 5-43. Parachutes stowed (continued)

CAUTION

The load binders of the parachute restraint straps must be tied to the load with lengths of type III nylon cord to prevent loss during airdrop.



- ① Run an 11-yard length of type X nylon webbing (restraint strap) across the front of the parachutes and through all available cluster attaching straps (carrying handles) inside and outside. Run the ends of the strap through the front holes in the stowage platform, and attach them to clevises 22 and 22A with two D-rings and load binders.
 - ② Run an 11-yard restraint strap across the middle of the parachutes and through the cluster attaching straps. Run the ends of the strap through the middle holes in the stowage platform, and attach them to clevises 24 and 24A with two D-rings and load binders.
 - ③ Run an 11-yard restraint strap across the rear of the parachutes, through the cluster attaching loops, and through all bridle attaching loops. Run the ends of the strap through the middle holes of the stowage platform, and attach them to clevises 26 and 26A with two D-rings and load binders.
 - ④ Install two multicut parachute release straps with three release knives as outlined in FM 10-500/TO 13C7-1-5.
- Note:** Only the multicut parachute release strap may be used on this load.
- ⑤ Tie the free ends of the release straps to the deployment line clevis (not shown).

Figure 5-44. Release strap installed

5-28. Installing Extraction System

Install the components of the EFTC as shown in paragraph 5-13.

5-29. Installing Release System

Prepare and attach a modified M-2 cargo parachute release as shown in paragraph 5-14.

5-30. Placing Extraction Parachutes

Cluster two 28-foot cargo extraction parachutes as outlined in FM 10-500/TO 13C7-1-5 and position them on the load for installation

in the aircraft. Equip the parachutes with a 120-foot (6-loop), type XXVI nylon webbing extraction line.

5-31. Installing Provisions for Emergency Restraints

NOTE: This paragraph applies only to the C-141 aircraft.

Install two large clevises on each tandem link as provisions for the emergency restraints as shown in Figure 5-45.

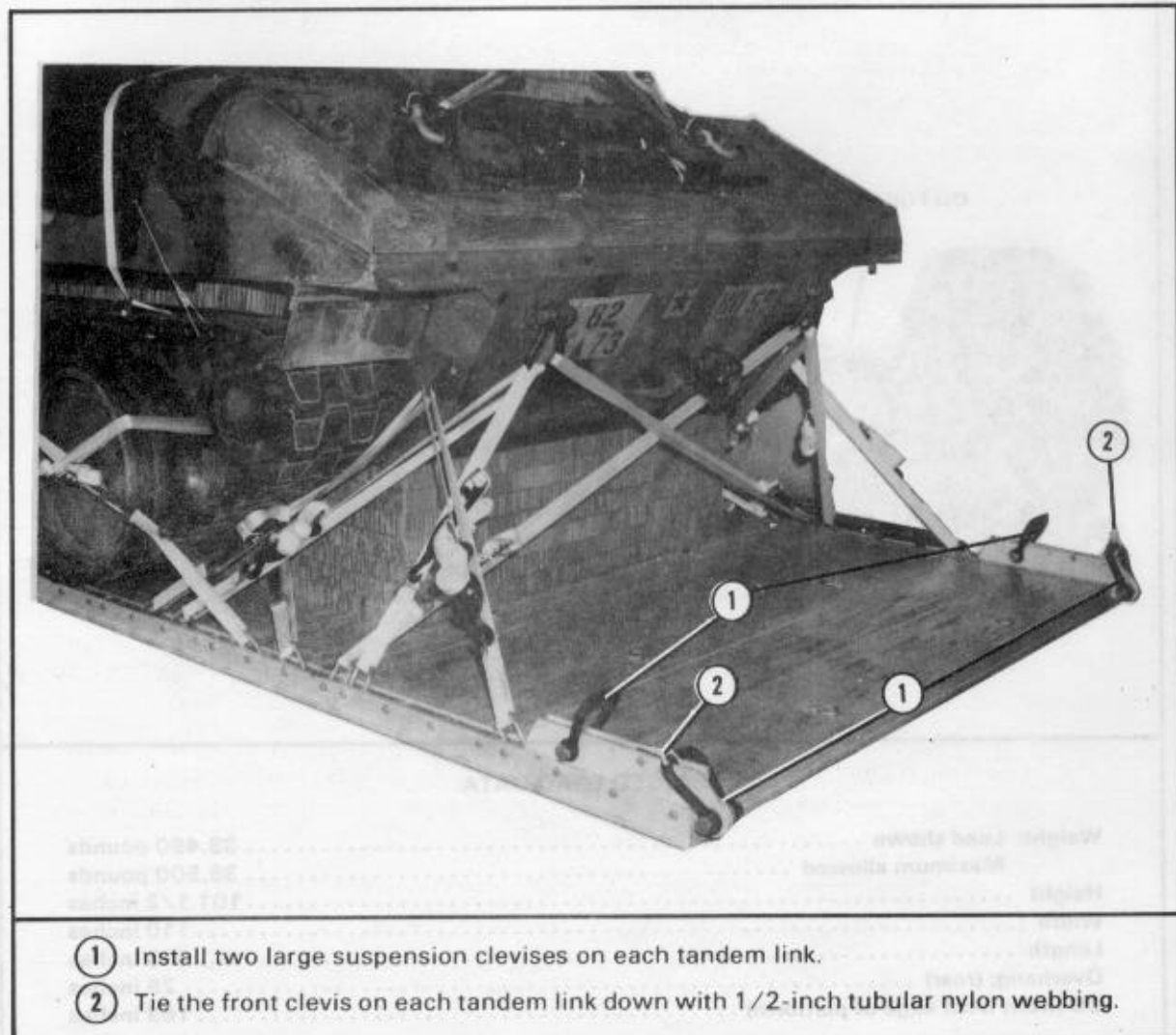


Figure 5-45. Provisions for emergency restraints installed

5-32. Marking Rigged Load

Mark the rigged load as outlined in FM 10-500/TO 13C7-1-5 and as shown in Figure 5-46. Complete DD Form 1387-2, and securely attach it to the load. Indicate on DD Form 1387-2 that the vehicle fuel tank and battery have been prepared according to AFR 71-4/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

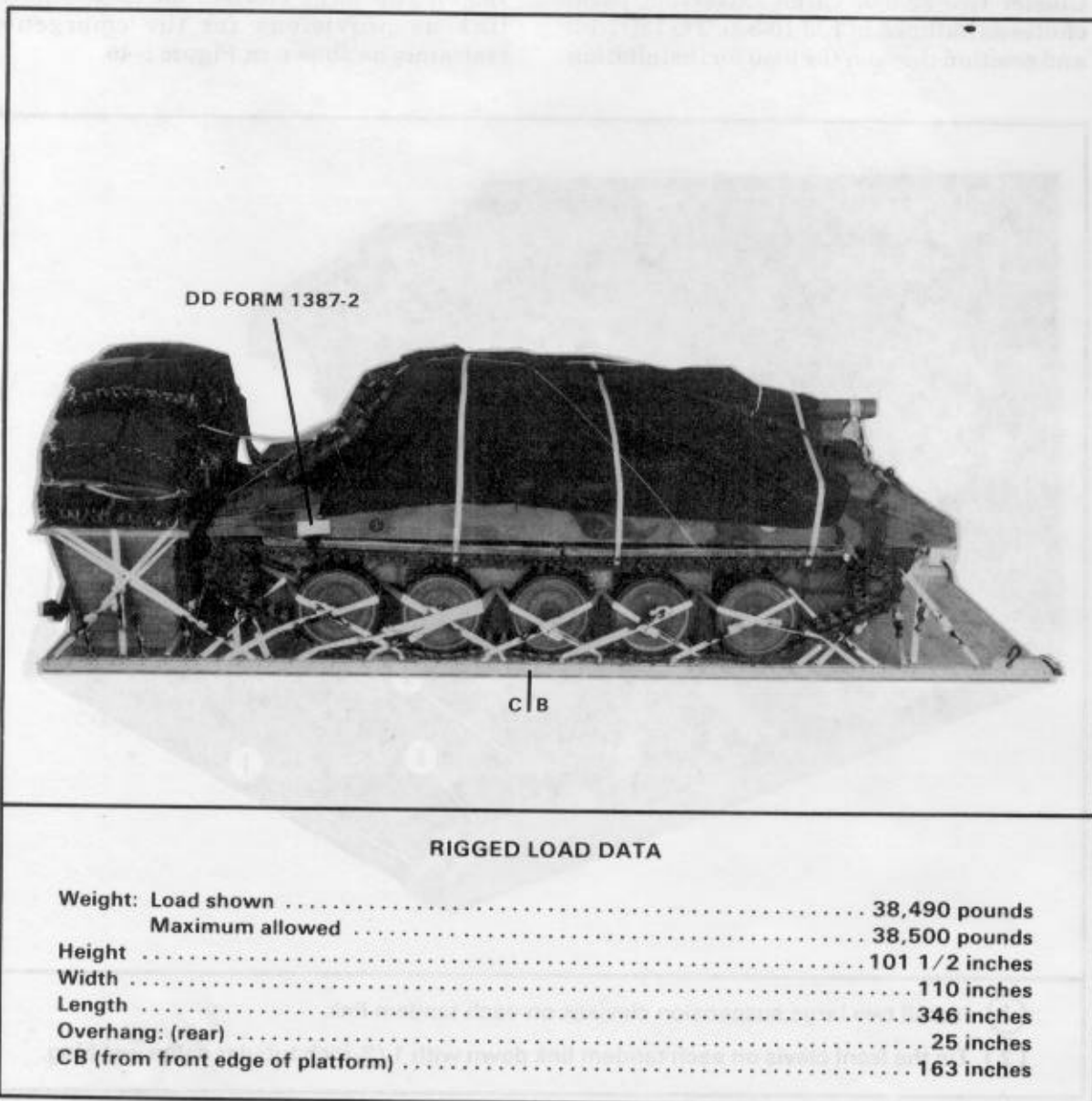


Figure 5-46. M551A1 ARAAV rigged for low-velocity airdrop on a type V platform

5-33. Equipment Required

Use the equipment listed in Table 5-2 to rig this load.

Table 5-2. Equipment required for rigging the ARAAV for low-velocity airdrop on a type V airdrop platform from a C-141 aircraft

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
3990-00-937-0272	Binder, load, 10,000-lb	6
4030-00-090-5354	Clevis, suspension, 1-in (large)	4
4030-00-432-2516	Clevis, screw-pin	4
8305-00-242-3593	Cloth, cotton duck, 60-in	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-157-6527	Coupling, airdrop, extraction force transfer w 28-ft cable	1
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
5365-00-937-0147	D-ring, heavy-duty, 10,000-lb	6
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-062-6312	Line, extraction, 120-ft (6-loop), type XXVI nylon webbing (for C-141) (Use with 28-ft parachute.)	1
1670-00-006-2752	Link assembly, four-point	1
5306-00-435-8994	Bolt, 1-in diam, 4-in long	
5310-00-232-5165	Nut, 1-in	
5365-00-007-3414	Spacer, large	
5510-00-220-6448	Lumber, 2- by 6-in:	
	48-in	2
	85-in	2
	Nail, steel wire, common:	
5315-00-010-4657	6d	As required
5315-00-010-4659	8d	As required
5315-00-010-4663	16d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in:	19 sheets
	12- by 12-in	(1)
	12- by 16-in	(1)
	12- by 18-in	(14)
	12- by 96-in	(28)
	16- by 24-in	(8)
	16- by 96-in	(4)
	24- by 36-in	(30)
	36- by 54-in	(1)
	36- by 84-in	(1)
	36- by 96-in	(1)

Table 5-2. Equipment required for rigging the ARAAV for low-velocity airdrop on a type V airdrop platform from a C-141 aircraft (continued)

National Stock Number	Item	Quantity
	43- by 18-in	(7)
	43- by 96-in	(14)
	Parachute:	
1670-01-016-7841	Cargo, G-11C	8
1670-00-040-8135	Cargo extraction, 28-ft, heavy-duty	2
	Platform, airdrop, type V, 28-ft:	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2372	Clevis, load tiedown	(64)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (multipurpose link)	(2)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	1
1670-01-097-8817	Release, cargo parachute, M-2, modified	1
	Sling, cargo, airdrop:	
	For deployment lines:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	3
1670-01-062-6305	9-ft (4-loop), type XXVI nylon webbing	1
	For riser extensions:	
1670-00-432-2494	120-ft (3-loop), type X nylon webbing	8
	or	
1670-01-062-6311	120-ft (2-loop), type XXVI nylon webbing	8
	For suspension sling:	
1670-00-432-2507	16-ft (4-loop), type XXVI nylon webbing	4
	or	
1670-00-003-7237	16-ft (4-loop), type XXVI nylon webbing	4
	or	
1670-01-062-6308	16-ft (4-loop), type XXVI nylon webbing	4
1670-00-998-0116	Strap, parachute release, multicut comes w 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	84
	Webbing:	
8305-00-268-2411	Cotton, 80-lb	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-in, 1,000-lb, natural	As required
8305-00-261-8584	Type X, treated, 8,700-lb, olive drab	As required